REMARKS/ARGUMENTS

Claims 1, 2, 5, 6, 7, 17, 31, 34, 35 and 37 have been amended. Claims 3-4, 17, and 35-36 have been canceled without prejudice or disclaimer. New claim 38 has been added. Claims 1-16 and 28-34 and 37-38 remain in this application.

1. § 112 Rejection

The Patent Office has rejected claim 35 under 35 U.S.C. § 112 first paragraph as failing to comply with the written description requirement. The Patent Office states, inter alia, that the content of page 10 paragraph 0040 "only refer to cooling the article to 100 degree C after heating in the process of setting up the parameters or setpoints necessary for determining the necessary gas temperature and velocity as well as microwave radiation and not the process of forming a ceramic article".

Applicants respectfully traverse the rejection.

Applicants submit that the content of page 10 paragraph 0040 taken in context with the present Application taken as a whole makes clear that the content of page 10 paragraph 0040 is referring to the process of forming a ceramic article. For example, the following portions of the present Specification clearly refer to an apparatus and process for forming a ceramic article:

- page 4 paragraph 0019:

  There is provided an improvement in the process of making ceramic multicellular articles, in particular ceramic honeycomb structures comprising oil-based components or extrusion aids. The improvement resides in removing oils from the green ceramic articles after drying and prior to firing ... [wherein the oil or oil-based component has a flash point – see page 2 paragraph 0009].

- page 4 paragraph 0020:

  The invention is applicable to ceramic powder processing which includes the formation of shaped articles from inorganic raw material powders and organic compounds.

- page 6 paragraph 0026:

  The inorganic raw materials are mixed together with the organic compounds and solvent to form a plasticized batch mixture.

- page 6 paragraph 028:

  The resulting plasticized batch is then shaped into a green structural body by any known method for shaping plasticized mixtures, such as e.g. extrusion...

- page 7 paragraph 0030:

  The green ceramic structural bodies are dried according to conditions well known in the art, and thereafter are fired...

- page 7 paragraph 0031:

  Following drying and prior to firing, a portion of the oil is removed so as to avoid uncontrolled burning and hazardous conditions during manufacturing. Removal is accomplished by forcing heated gas, with or without microwave heating, at a desired velocity through ceramic articles to evaporate the oil-based non-solvent component.

- page 7 paragraph 0032:

  One embodiment of the present invention is shown in FIG. 1 as a block diagram of an apparatus. This apparatus comprises a processing chamber 10 configured to receive a mass of ceramic ware 12 ... The gas system 14 comprises a gas source 16, a heater 18 for heating the gas and a fan or pump 20 for controlling the velocity of the gas. The gas system 14 is further connected to a gas system controller 22 for controlling the velocity and temperature of the gas. The gas system controller 22 in turn is in communication with the processing chamber 10 through a temperature measurement system 30 such as a thermocouple.

- page 9 paragraph 0038:

  Referring now to FIG. 2 therein shown is another embodiment of the present invention as a block diagram of an apparatus. This apparatus is similar to the apparatus of FIG. 1, with the addition of a microwave system 36 coupled directly or indirectly, to the processing chamber 10.

- and page 10 paragraph 0040:

  In setting up the parameters or setpoints necessary for determining the necessary gas temperature and velocity, as well as microwave radiation, to remove a portion of oil components in a reasonable time, factors including the ceramic composition, geometry, capabilities of the equipment should be considered.

Applicants further submit that the remainder of page 10 paragraph 0040 describes three examples of oil being removed from cordierite bodies, wherein the bodies were heated, then cooled, prior to firing of the bodies, that is:

- a first honeycomb body was heated in N_2 for 35 minutes to about 160°C, at a gas flow rate of about 6.0 scfm, with no hold, followed by a 15 minute cool down to about 100°C;
- a second honeycomb body was exposed to microwave radiation of 100 Watts, and the ceramic ware was heated for 6 minutes to about 160°C at a flow rate of 4.0 scfm, with a hold of 6 minutes at top temperature, followed by a 5 minute cool down to about 100°C; and

- a third honeycomb body was heated in N_2 for 60 minutes to about 150°C, at a gas flow rate of about 1.5 scfm, with a hold of 1 hour at top temperature, followed by a 15 minute cool down to about 100°C.

Page 11 paragraph 0044 then states:

> Following the removal of the oil, the prepared ceramic bodies, still green, are then fired at a selected temperature under suitable atmosphere and for a time dependent upon the composition, size and geometry so as to result in a fired body of the desired ceramic.

Applicants further submit that page 10 paragraph 0040 thus describes establishing the temperature and velocity of the gas, and optionally microwave radiation, so as to result in the bodies' attaining temperatures and for times effective for removal of oil from the bodies. Moreover, Applicants submit that the oil removal is part of a process of forming a ceramic article, wherein after removal of oil from the body, and the body is fired, as clearly described in the present Application.

Accordingly, Applicants submit that at least the above portions of the present Specification describe in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the invention claimed in claim 35, and at least the above portions of the present Specification support claim 35, and therefore Applicants respectfully request reconsideration and withdrawal of the rejection..

Applicants note that claim 35 has been canceled above without prejudice or disclaimer. Applicants further submit that at least the above portions of the present Specification support claim 38 as well.

2. § 103 Rejections

The Patent Office has rejected claims 1-11, 13-15, 17 and 28-37 under 35 U.S.C. § 103(a) as being unpatentable over Xun (US Patent No. 6,287,510) in view of Lundsager (US Patent No. 4,900,698) and further in view of Gheorgiu et al. (US Patent No. 5,263,263).

The Patent Office has also rejected claim 12 under 35 U.S.C. § 103(a) as being unpatentable over Xun (US Patent No. 6,287,510), Lundsager (US Patent No. 4,900,698), and Gheorgiu et al. (US Patent No. 5,263,263) as applied to claim 1, and further in view of Weich Jr. (US Patent No. 4,717,340).

The Patent Office has also rejected claim 16 under 35 U.S.C. § 103(a) as being unpatentable over Xun (US Patent No. 6,287,510), Lundsager (US Patent No. 4,900,698), and

Gheorgiu et al. (US Patent No. 5,263,263) as applied to claim 1, and further in view of Nakajima (US Patent No. 4,731,208).

In view of the claims as amended, the rejections are respectfully traversed.

With regard to Claims 1, 17, 31, and 37, Applicants submit that none of the cited references teaches or even suggests what *flow rate* should be used for removing oil, and in particular none of the cited references teaches or even suggests flowing a gas through a green body at a rate of 0.2 to 8 standard cubic feet per minute (scfm) per 90 cubic inches of the green body.

Furthermore, Applicants submit that *In re Aller*, which was cited by the Patent Office, is not applicable in the present case. The process sought to be patented in *In re Aller* was "... identical with that of the prior art, except that appellants' claims specify lower temperatures and higher sulphuric acid concentrations than are shown in the reference".

In contrast, in the present case, the process sought to be patented is not identical with that of the cited references: none of the references disclose even a single flow rate (for example, in scfm, and even more particularly in scfm per cubic inches of an article) for removing oil from an article. Unlike *Aller*, the cited references do not provide, for example, values of flow rate higher than presently claimed, nor values of flow rate lower than presently claimed; the cited references also do not provide, for example, a range of flow rate values encompassing those presently claimed. Applicants submit that the cited references do not disclose flow rate at all.

Additionally, Applicants submit that Gheorgiu merely describes the effect of temperature and velocity of heated gas on *water* drying rates. Applicants further submit that Gheorgiu does not teach or suggest the effect of temperature and velocity of heated gas on *oil removal* rates or on any component having a flash point (as water does not have a flash point). As discussed hereinabove, Applicants submit that Gheorgiu does not teach or suggest flow rates at all, and further does not teach or suggest removal of oil at all, and indeed Gheorgiu does not mention oil at all.

Moreover, Applicants submit that the presently claimed invention differs "in kind" from Gheorgiu (see *In re Aller*, page 237), and accordingly the "general conditions" of Claims 1, 17, 31, and 37 are not disclosed in the cited references.

Therefore, Applicants submit that the cited references do not teach or suggest, singly or in combination, Claims 1, 17, 31, and 37.

With regard to Claims 35, Applicants submit that none of the cited references teaches or even suggests heating, then cooling to about 100 C, then firing a green article.

With regard to new Claim 38, Applicants submit that the cited references do not teach or suggest, singly or in combination, flowing a gas through the green ceramic article and controlling the temperature and the velocity of the gas sufficient to heat the green honeycomb article to remove at least a portion of a component having a flash point, followed by cooling of the green honeycomb article, and then firing the green honeycomb article.

Applicants submit that the dependent claims are allowable for at least the above reasons.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections.

Based upon the above amendments, remarks, and papers of records, applicant believes the pending claims of the above-captioned application are in allowable form and patentable over the prior art of record. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Applicant believes that no extension of time is necessary to make this Reply timely. Should applicant be in error, applicant respectfully requests that the Office grant such time extension pursuant to 37 C.F.R. § 1.136(a) as necessary to make this Reply timely, and hereby authorizes the Office to charge any necessary fee or surcharge with respect to said time extension to the deposit account of the undersigned firm of attorneys, Deposit Account 03-3325.

Please direct any questions or comments to Joseph M. Homa at 607-974-9061.

Respectfully submitted,

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